import java.awt.event.\*;

import javax.swing.\*;

import java.awt.\*;

class Calculator extends JFrame implements ActionListener {

static JFrame f;

static JTextField l;

String s0, s1, s2;

Calculator()

{

s0 = s1 = s2 = "";

}

public static void main(String args[])

{

f = new JFrame("calculator");

Calculator c = new Calculator();

l = new JTextField(16);

l.setEditable(false);

JButton b0, b1, b2, b3, b4, b5, b6, b7, b8, b9, ba, bs, bd, bm, be, beq, beq1;

b0 = new JButton("0");

b1 = new JButton("1");

b2 = new JButton("2");

b3 = new JButton("3");

b4 = new JButton("4");

b5 = new JButton("5");

b6 = new JButton("6");

b7 = new JButton("7");

b8 = new JButton("8");

b9 = new JButton("9");

beq1 = new JButton("=");

ba = new JButton("+");

bs = new JButton("-");

bd = new JButton("/");

bm = new JButton("\*");

beq = new JButton("C");

be = new JButton(".");

JPanel p = new JPanel();

bm.addActionListener(c);

bd.addActionListener(c);

bs.addActionListener(c);

ba.addActionListener(c);

b9.addActionListener(c);

b8.addActionListener(c);

b7.addActionListener(c);

b6.addActionListener(c);

b5.addActionListener(c);

b4.addActionListener(c);

b3.addActionListener(c);

b2.addActionListener(c);

b1.addActionListener(c);

b0.addActionListener(c);

be.addActionListener(c);

beq.addActionListener(c);

beq1.addActionListener(c);

p.add(l);

p.add(ba);

p.add(b1);

p.add(b2);

p.add(b3);

p.add(bs);

p.add(b4);

p.add(b5);

p.add(b6);

p.add(bm);

p.add(b7);

p.add(b8);

p.add(b9);

p.add(bd);

p.add(be);

p.add(b0);

p.add(beq);

p.add(beq1);

p.setBackground(Color.black);

f.add(p);

f.setSize(400, 420);

f.show();

}

public void actionPerformed(ActionEvent e)

{

String s = e.getActionCommand();

if ((s.charAt(0) >= '0' && s.charAt(0) <= '9') || s.charAt(0) == '.') {

if (!s1.equals(""))

s2 = s2 + s;

else

s0 = s0 + s;

l.setText(s0 + s1 + s2);

}

else if (s.charAt(0) == 'C') {

s0 = s1 = s2 = "";

l.setText(s0 + s1 + s2);

}

else if (s.charAt(0) == '=') {

double te;

if (s1.equals("+"))

te = (Double.parseDouble(s0) + Double.parseDouble(s2));

else if (s1.equals("-"))

te = (Double.parseDouble(s0) - Double.parseDouble(s2));

else if (s1.equals("/"))

te = (Double.parseDouble(s0) / Double.parseDouble(s2));

else

te = (Double.parseDouble(s0) \* Double.parseDouble(s2));

l.setText(s0 + s1 + s2 + "=" + te);

s0 = Double.toString(te);

s1 = s2 = "";

}

else {

if (s1.equals("") || s2.equals(""))

s1 = s;

else {

double te;

if (s1.equals("+"))

te = (Double.parseDouble(s0) + Double.parseDouble(s2));

else if (s1.equals("-"))

te = (Double.parseDouble(s0) - Double.parseDouble(s2));

else if (s1.equals("/"))

te = (Double.parseDouble(s0) / Double.parseDouble(s2));

else

te = (Double.parseDouble(s0) \* Double.parseDouble(s2));

s0 = Double.toString(te);

s1 = s;

s2 = "";

}

l.setText(s0 + s1 + s2);

}

}

}

import java.awt.GridLayout;

import java.awt.event.ActionEvent;

import java.awt.event.ActionListener;

import javax.swing.\*;

public class TicTacToe extends JPanel

{

JButton buttons[] = new JButton[9];

int alternate = 0;

public TicTacToe()

{

setLayout(new GridLayout(3,3));

initializebuttons();

}

public void initializebuttons()

{

for(int i = 0; i <= 8; i++)

{

buttons[i] = new JButton();

buttons[i].setText("");

buttons[i].addActionListener(new buttonListener());

add(buttons[i]);

}

}

public void resetButtons()

{

for(int i = 0; i <= 8; i++)

{

buttons[i].setText("");

}

}

private class buttonListener implements ActionListener

{

public void actionPerformed(ActionEvent e)

{

JButton buttonClicked = (JButton)e.getSource();

if(alternate%2 == 0)

buttonClicked.setText("X");

else

buttonClicked.setText("O");

if(checkForWin() == true)

{

JOptionPane.showConfirmDialog(null, "Game Over.");

resetButtons();

}

alternate++;

}

public boolean checkForWin()

{

if( checkAdjacent(0,1) && checkAdjacent(1,2) )

return true;

else if( checkAdjacent(3,4) && checkAdjacent(4,5) )

return true;

else if ( checkAdjacent(6,7) && checkAdjacent(7,8))

return true;

else if ( checkAdjacent(0,3) && checkAdjacent(3,6))

return true;

else if ( checkAdjacent(1,4) && checkAdjacent(4,7))

return true;

else if ( checkAdjacent(2,5) && checkAdjacent(5,8))

return true;

else if ( checkAdjacent(0,4) && checkAdjacent(4,8))

return true;

else if ( checkAdjacent(2,4) && checkAdjacent(4,6))

return true;

else

return false;

}

public boolean checkAdjacent(int a, int b)

{

if ( buttons[a].getText().equals(buttons[b].getText()) && !buttons[a].getText().equals("") )

return true;

else

return false;

}

}

public static void main(String[] args)

{

JFrame window = new JFrame("Tic-Tac-Toe");

window.setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

window.getContentPane().add(new TicTacToe());

window.setBounds(300,200,300,300);

window.setVisible(true);

}

}